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CAPSULITIS PURULENTA ET HÆMORRHAGICA.

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In searching the literature of ophthalmology, and learning how conspicuous is the scarcity of reference to capsulitis, I judge it of interest to review a case which has been under my observation for a few weeks past. It supervening upon a ten days' favorable progress after cataract extraction, developing into an alarming and prolonged sequela, and having a propitious termination, are not the least interesting of its features.

On April 20, 1889, Miss B., æt. 75 years, entered the New Amsterdam Eye and Ear Hospital with immature cataract in either eye. Vision as follows: R. V.=$^{20}/_{cc}$. L. V.=$^{6}/_{cc}$. The cataracts being exceedingly slow in ripening, Dr. Pooley at this date performed Förster's operation on the left eye to hasten the maturing process. Recovery was prompt and the patient was discharged to await further development.

On February 10, 1890, the patient returned to the hospital in good health and with a hard ripe cataract. L. V.= perception of light.

February 11. Graefe's extraction was made without accident and no cortical matter was left. All went well for a period of ten days and the patient was beginning to plan for her return home. The dressings upon removal each day had revealed a healthy condition, the appearance of the wound was all that could be desired, and vision was such that time by the watch was easily told.

At this date, February 21, the patient had developed a severe rhinitis which was accompanied by injection of both conjunctivæ, more pronounced in the operated eye, but it naturally being the more susceptible to untoward influences, no special alarm was sounded, though of course a critical examination was made, showing at this early date no apparent complications of the internal structures. The following night the patient was restless and the next day presented a chemotic condition of the conjunctiva, ocular and palpebral, of the operated eye. Upon careful examination a small opacity, the size of a pin-head, and thickening were seen at the inner and lower margin of the capsular coloboma. There were no corneal or iritic complications, no infiltration of the wound. A drop of atropine caused a quick response of the iris. This minute proliferation gradually extended until nearly the whole capsule was involved. My notes of the case, under date February 26, read as follows: "On the 22d had noticed thickening and opacity of the capsule in inner lower portion resembling a pustule, a condition which has gradually extended across the inferior portion of the capsule, now including the external area as well. The pupil still responds readily to atropine and the iris presents a healthy appearance. The pupil has become hazy, especially in the lower portion, wherein a slight hypopyon is visible. The infiltration is now pronounced in the lower part of the capsule and is hæmorrhagic and purulent in character. Some pain referable to the eye and vertex headache have been complained of, while the chemosis of the conjunctiva, œdema of the lids and watery discharge have been excessive. The focus of greatest chemosis corresponds with the focus of beginning capsulitis, viz.: A few millimetres from

the sclero corneal margin on the nasal side and on a horizontal plane with the first noticed capsular infiltration. No adhesions exist and the corneal wound remained closed and free from irritation. Four leeches to the temple applied and atropine instillations every three hours ordered. Calomel and soda bicarbonate at bedtime also. Antipyrine, 10 grains.

The patient had a comfortable day, free from pain and headache." On February 27, the condition of the capsule above described included the whole membrane except a small portion corresponding to the coloboma in the iris and the hæmorrhagic character of the inflammation predominated. Until March 3, no material change took place. Under this date my notes read: "The whole pupillary area is filled with the products of inflammation , more pain in the head, especially on the left side (vertex) and the eye slightly tender to the touch, ciliary irritation."

March 5; "A decided improvement. A portion of pupillary area, superior and nasal, has become quite free and clear, No pain. Chemosis still persists." From this date a gradual improvement took place until March 20, when all signs of inflammation had disappeared. A distinct and separate hyphæma occupied the lower part of the anterior chamber for a few days, but it, too, was finally absorbed. As will be noted the duration of this case was exactly four weeks. The pupil from extreme dilatation has become slowly and moderately contracted, the iris is healthy in appearance, in color resembling its fellow, and the pupillary area is occupied by a dense gray membrane, except a small opening superiorly through which sufficient light is transmitted to enable the patient to count fingers at three feet. Doubtless this membrane will readily yield to an after operation and good vision be secured.

I may just mention that the treatment of this case included atropine, leeches, cold and hot applications, laxatives and darkness. Very much benefit was derived from the hot applications.

In Knapp's *Archives of Ophthalmology*, vols. I and VI, H. Knapp in recording his third, fourth and fifth series of cat-

aract extractions, refers to a few cases of capsulitis uncomplicated, by which I mean simple capsulitis without corneal, iritic or ciliary complications. The author, however, does not refer to the cause, predisposing or exciting, apart from the traumatism inflicted upon the capsule at the time of the extraction. If traumatism be the cause it is a matter of surprise that the complication is not only of the rarest occurrence but so late in its development.

Corneal and conjunctival diseases are often met with where the etiology is easily traceable to nasal irritation, hence, it has occurred to me that possibly the preceding rhinitis in the case reported might be considered etiologically, and also, that the excessive hæmorrhagic character of the inflammation may have, as a factor in its causation, the maturation process—Förster's operation—an operation which may produce a vascular condition of the capsule and thus render it more liable in an inflammatory process to be attended by hæmorrhages. In none of the text-books on ophthalmology could I find any reference to the subject, and, therefore, presume that the occurrence of such a case as I have reported is exceedingly rare.

TRACHOMA.

BY BARTON PITTS, M.D., ST. JOSEPH, MO.

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Read before the Missouri Valley Me ical Association, St. Joseph, Mo., March 20, 1890.

In considering the subject of trachoma, I have nothing original in the way of pathology to offer, nor any new remedies to suggest. My desire is to present a synopsis of the symptoms of this most troublesome chronic eye disease and to call attention to a few of the points of difference between it, and other forms of conjunctival disease with which it is likely to become confounded. In the way of therapeutics, I have no new specific to suggest as the list is already overflowing—a sure indication of the inefficacy of them all—I desire, however, to emphasize the method of application of a few remedies which, if carefully and intelligently used, will, I think, enable the profession to answer in the affirmative, that trachoma or chronic granular lids, is curable. The disease of trachoma dates back in its origin to the earliest times of history. In Egypt, at the present day, I am told by an experienced medical man from that country, that it is the exception to find a native exempt from this loathsome pest. Amongst the Hebrew race, the Chinese, Italian, the Irish, and amongst almost every civilized people it prevails, and is carried all over the globe. In the great majority of instances the disease is found to flourish in asylums, jails, tenements, and amongst the poorer, and consequently more crowed and uncleanly class of humanity.

In visiting, not long since, a so-called charity orphan asylum

my disgust as well as commiseration was excited by the universal prevalence of this disease amongst the inmates.

In this Western population, which is composed to such a large extent of people of foreign nationality, the disease, even in the rural districts, exists to a distressing degree. In the South it is not nearly so prevalent, and amongst the negro race it is almost unknown. In fact, in five years' observation in the South, I do not recall a case of trachoma in a negro. I have, of late years, observed a few cases in that race in this section of the country. I account for such immunity not by any want of race susceptibility, but, I consider it, as due to their comparatively short existence as a race amongst civilized people, and to the further fact that the disease does not exist in their native country.

In studying the history of this disease and taking into consideration the various ways of its propagation, such as crowding together of the inmates of eleëmosynary institutions, want of cleanliness. ignorance as to the infectious nature of the disease, etc., a very practical lesson could be drawn to advantage, toward preventing the maintenance of this, one of the great plagues of humanity. It would seem, however, vain to hope for an obliteration of the disease by hygienic precautions where so much depends upon civil co-operation and individual intelligence and care.

As a striking instance of the contagiousness of the disease, and its heir-loom propensities, I will mention a family in the extremely poor class of this city, in which the disease is present unto the third generation—affecting the grand-father, grand-mother, their six or eight children, and their many grand-children—covering a period of life from two years to seventy, and existing in all stages of development, from that of quiescent presence of the trachomatous bodies; blennorrhagia, inflammation of the conjunctiva, thickening and drooping of the lids, ulceration and pannus of the cornea, absorption of the conjunctiva with incurvation of the tarsal cartilages, producing entropion, trichiasis, and in several older members of the family, destruction of the eye-sight. Since the researches

and experiments of Sattler, in 1881-2, the opinion of those of the profession who have considered the subject, is that the cause of the affection is due to the presence of a specific trachoma diplococcus. It is true that careful investigators have, in numerous instances, failed to discover the presence of the characteristic diplococcus, as described by Sattler and Michel. It is possible, however, in this affection, as in many other contagious diseases, that there are modifying influences such as progressive or retrogressive metamorphosis of the specific germs; or changes produced in the conditions by local applications; or varied by individual greater or less predisposition to inflammatory complications, etc., which may enter as important factors in reaching definite pathological conclusions as to the specific cause.

It is claimed that the introduction of the specific diplococcus upon the normal conjunctiva gives rise to the development of trachomatous bodies and the characteristic inflammation, known as granular lids. True it is that the introduction of the secretion from a trachomatous eye upon the healthy conjunctiva gives rise to the characteristic disease. By many the disease is accounted for solely upon the supposition of contagion. In some rare sporadic cases, it is difficult, however, to account for the origin of the disease upon this hypothesis. But if we consider the intricate and innumerable ways of propogation of contagious material, such cases may not be so incomprehensible.

I have observed in many instances cases in which only one eye of an individual would be affected with granulations, the other having remained exempt for years, or indefinitely. Again, in an eye in a state of phthisical atrophy, almost invariably a trachomatous condition of the conjunctiva exists. Eyes suffering from chronic inflammation seem sooner or later destined to be infected with granulations. Such instances may illustrate another factor in considering the pathology of contagious diseases—that is, the more or less favorable conditions of the parts, or soil upon which the infectious material seeks habitation. Owing to the wide-spread prevalence of the disease, its

extremely chronic nature, often extending in its slow stages over a period of several decades, rendering life a burden, impairing, and oftimes destroying the eyesight, disfiguring to the appearance, loathsome to associates, and a constant nidus of infection, it is, in its demands upon the attention of the medical profession, second to no disease in ophthalmology with which we have to deal.

From the mildness and apparent innocence of the early stage the insidious progress of the disease, and the stubbornness with which it resists treatment, I am aware of the difference with which individual cases are ordinarily considered at the hands of the profession. By many its recognition is considered so easy that the flippant diagnosis of granular lids is made to cover errors of refraction; intraocular troubles, simple, catarrhal and purulent conjunctivitis; corneal ulcerations; inflammation of the iris, and in fact it is confounded with almost every trouble to which the eye is subject; standing as a scape-goat in eye troubles, as a convenient appellation of malaria does in general diseases.

Its early recognition is not only important in offering a more favorable opportunity for a successful and speedy cure, but in many instances saving one's reputation in prognosis, and for skill in handling such supposed innocent eye inflammations. Trachoma is ordinarily divided into the acute and the chronic forms; such a division is, however, artificial, and, I think, misleading. It is true that in acute catarrhal conjunctivitis trachomatous bodies may be engrafted and found upon subsidence of the conjunctival inflammation, and true it is, that in trachoma acute catarrhal conjunctivitis, may supervene, rendering a differential diagnosis at this stage of the affection extremely difficult, even at the hands of those familiar with the appearance of these structures in such affections. The advent of the trachomatous infection of the conjunctiva may be accompanied by inflammation, in the so-called acute forms of trachoma, but, all such cases subside into the chronic form, and pass through the slow stages of inflammation before cure. Trachoma is essentially a slow, chronic malady, depending upon the neoplastic

formation in the conjunctiva of firm yellowish or grayish bodies, and accompanied by vascularity, roughness, and thickening of the conjunctiva. The lower lid is usually first affected, the inflammation, thickening, and granulations extending to the submucous tissue of both lids and the retro-tarsal folds at a later period. This newly developed tissue, after long periods is partly absorbed and partly converted into dense white tendinous scars, which, in the process of slow shrinking, gives rise to much damage to the structures of the eye.

It is important in considering the nature of this disease to bear in mind that the surface of the conjunctiva, does not ulcerate, and that the prominences are not granulations in the surgical sense. Neither should they be confounded with the velvety papillæ of the conjunctiva presented in acute inflammation of that membrane, although, such a velvety condition of the conjunctiva sooner or later co-exists in trachoma. For the reason that the term "granular lids" can be quite as appropriately applied as expressing the physical condition, and appearance of the surface of the conjunctiva, in a state of catarrhal inflammation, as, in that in which there is a new formation of the trachomatous bodies, I think the term "trachoma" is more distinctive and less conducive to mistakes in diagnosis and treatment. In the normal conjunctiva there are present numerous small, clear, or semi-transparent bodies, especially in the upper and lower retro-dorsal folds at the outer or temporal side, and supposed to be lymph glands, known as the follicles of Krause, and which are often made the bug-bear of a supposed case of trachoma.

There is another condition of the conjunctiva, often met with in the young and poorly nourished, known as "follicular conjunctivitis." In these conditions there are present in large numbers, small, clear "frog-spawn" follicles scattered over the surface of the retro-tarsal folds, especially the lower fold. In appearance the condition is very similar to true trachoma, but unlike it in termination, the follicles undergo absorption and disappear without inflammation or cicatrical changes in the surface of the conjunctiva. The differential diagnosis between

such a condition and that of trachoma depends upon the relative degree of inflammation, difference in color, size, and location of the bodies. In follicular granulations the bodies are clear, transparent, and like frog-spawn, small in size, and confined to the retro-tarsal folds. In trachoma there is associated irritation, inflammation, and thickening of the conjunctiva, and subconjunctival tissues. The individual trachomatous bodies are larger and of a yellowish or grayish tint, and distributed promiscously over the surfaces of the lids, retro-tarsal folds, and even upon the conjunctiva of the sclerotic. A further distinction is that in the one condition there is usually more or less pannus of the cornea, and invariably there is, in trachoma, a development of scar-tissue, which is not the case in follicular or catarrhal conjunctivitis.

In catarrhal inflammation of the conjunctiva, there is absence of the characteristic trachomatous bodies, evidence, however, which at the time may be only negative—for despite the careful exploration of the surface of the conjunctiva with a probe and magnifying lens—the degree of thickening and enlargement of the papillæ of the surface may render search uncertain. Delay in opinion until subsidence of the inflammation and thickening is, in such conditions, the only sure procedure.

Trachomatous inflammation has so many stages, and the conditions are so often varied and modified by individual peculiarities and treatment, and are associated with such numerous and varying complications, that in the application of remedies it is necessary to consider these varying circumstances in order to render a correct prognosis, and secure a favorable termination of the disease. In the early stages of the disease, there may be present in a quiescent state the neoplastic granulations, remaining unnoticed for months or even years; the irritations slight, the eyelids are perhaps only a little glued together after sleep.

At a later stage after exposure to wind or dust, or upon use by lamp-light, irritation of the eyes supervenes, with a roughness of the lids as though a foreign substance were p resent

The granulations multiply, the conjunctiva becomes congested and inflamed, the papillæ become enlarged, and perhaps the upper lids droop. The discharge at first, thin and watery, becomes thicker, more copious, and of a muco-purulent character. In some cases the tendency to a catarrhal or muco-purulent inflammation is more or less persistent; in other individuals there is a marked tendency to subsidence, periodically, often deluding the afflicted patient into a false hope of permanent relief, and temporarily redounding to the reputation and profit of the supposed skilled adviser, in whose hands the individual happens to be at the time.

Sooner or later relapses ensue, recurring again and again, accompanied by considerable corneal infiltration and conjunctival hypertrophy, and, gradually giving rise to various grave complications, such as trichiasis, pannus, entropion, etc. As the development of the granulations progresses, if unchecked, the new tissue extends deep into the stroma of the conjunctiva which, in the slow process of nature's cure, undergoes partial absorption, and is partly converted into cicatricial tissue. The conjunctiva undergoes atrophy and contraction; these changes in the structure of the conjunctiva often extends to the retro-tarsal folds, thus obliterating the natural cul-de-sac above and below. Even the tarsal cartilage may be included in the atrophic process, giving the inner surface of the lids a peculiar, glistening or tendinous appearance, and by contraction, so distorting the shape of the tarsus as to produce the destructive complications of trichiasis and entropion. These latter conditions of the conjunctiva are accompanied by an alteration and diminution in its normal secretion, so that its surface becomes dry, rough, and oftimes scaly.

The cornea, even in the early progress of the disease is involved, often at first by small ulcerations and phlyctenulæ at the sclere corneal junction, surperficial pannus, especially at the upper border—the result of the constant friction of the roughened lids; or due to the extension of the granulations and hypertrophy on to the cornea. There is occasionally dense pannus, softening and bulging of the cornea, resulting in great

impairment of vision and often blindness. In forming the prognosis in this affection it should be taken into account that this is an extremely intractable chronic disease, precarious in its course, and uncertain in its complications and outcome. Nature's method of cure is that of absorption of the granulations with accompanying atrophy of the conjunctiva, and often extends over many years, and is attended by untold discomforts and dangers.

In considering the measures for relief in this affection the multitude of remedies suggested is prodigious; most of them, however, such as the various stimulants, have for their object the establishment and maintenance of a certain degree of irritation or inflammation of the conjunctiva, under which condition, especially in the latter stage of the affection, nature's process of absorption of the adventitious products, is undoubtedly hastened. At the head of this list stands the conventional agent—sulphate of copper or blue-stone.

When cautiously and intelligently used it is invaluable, and almost indispensable; but on the other hand, when used indiscriminately, not only during the inappropriate stages, but more especially in its unwarranted use in mistaken cases of supposed trachoma I think it problematical, whether it has been productive of more benefit than harm in ophthalmological practice. Antiphlogistic sedative and anodyne agents suggest themselves according to the degree of the inflammation, irritation and discharge.

As routine treatment, and especially for home use, I favor frequent cleansing of the conjunctiva, with an antiseptic wash of 1-4000 solution of bichloride of mercury; and the periodical application between the lids, with protracted massage, of an ointment of yellow oxide of mercury, 20 to 30 grains to the ounce. These measures are only auxilliary to nature's slow process and involve long suffering and patience on the part of the individual, and intelligence in selection, and care in their application, on the part of the physician. With such care, however, untold suffering may be diminished, dangerous complications avoided, and the course of the disease markedly shortened. As a radi-

cal and immediate cure for this condition of trachoma, there has been suggested an agent extensively used in Brazil, known as "Jequirity." Its action, like that of gonorrhœal matter, is to excite such an intense inflammation and discharge, that in given cases the trachomatous thickened conjunctiva and pannus of the cornea are, as it were, miraculously cleansed, regenerated and made whole, in the short space of a few days' time.

My personal experience with this agent is limited to only one case, but from my observations in that instance and from the reported experience of others, I am satisfied of the great value of this remedy, especially in some conditions of trachoma, that is, in which there is a great amount of pannus, with hypertrophy and dryness of the conjunctiva. In such cases brilliant results have been reported from the use of this agent, restoring to usefulness and health, eyes that under any other course of treatment, were apparently incurable. Unfortunately it is not free from danger, nor so effectual in the early stages of the disease; could the application be limited and the severity of its effect be controlled, we might hope for a more extended usefulness of this agent in the future.

There has been one method, however, which has been recently suggested, and which I have given extensive trial in the treatment of this affection, by which, in conjunction with other agents, speedy relief and cure can in almost every case of trachoma be assured.

I refer to the process of expression or squeezing out of the granulations. Various methods of procedure are recommended, such as using the thumb nails, scraping, etc., but such manœuvers I have found awkward and ineffectual. My preference is to use a diminutive pair of ring forceps, and after cocainizing the parts, to strip the entire surface of the conjunctiva free from all visible granulations. This procedure should be repeated from time to time using as auxilliary measures thorough and frequent washing of the conjunctiva, with 1-3000 or 1-4000 solution of bichloride of mercury, and occasionally, for the stimulating effect, especially in the more advanced chronic cases, an ointment of yellow oxide of mercury, and where there

is much thickening of the parts with pannus of the cornea, and sluggishness of the absorption, the occasional application of the crystal of copper.

Since using this method of expression or squeezing out of the granulations, which is especially adapted to the relief of the early presence of trachomatous bodies, and which is harmless, and comparatively painless in its application, I have ceased to quake at the approach of this common and dreaded malady, and from an extensive trial, embracing cases in all stages of trachoma, I feel convinced that if carefully and thoroughly used, a speedy cure without the destructive atrophy of the conjunctiva, may be accomplished, often in a few weeks' time.

SOCIETY PROCEEDINGS.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, MARCH 13, 1890.

J. HUGHLINGS JACKSON, M.D., F.R.S., President, in the Chair.

CASE OF PRIMARY GLAUCOMA AT THE AGE OF 22.

MR. SPENCER WATSON read notes of this case, in a woman, the subject of microphthalmos and hypermetropia. The patient was engaged in needlework for sixteen hours daily. When she came under observation both eyes were glaucomatous, the right eye being more affected than the left. Operation was advised, but was not consented to until four weeks later, when double iridectomy was performed. The left eye improved, and tension remained normal. A second iridectomy was performed on the right eye, but not much improvement in vision resulted.

DR. W. J. COLLINS asked if Mr. Watson had measured the corneæ in his case.

MR. BRAILEY mentioned the case of a girl, æt. 18 years, under his care, in whom glaucoma had supervened on microphthalmos; in this instance, there was almost complete irideremia. The tension had been relieved by an equatorial scleral puncture.

MR. SPENCER WATSON replied that he had not measured the corneæ; there was no doubt about the microphthalmos.

A Case of Spontaneous Purulent Hyalitis Nine Months After Successful Cataract Extraction.

Dr. Berry communicated this paper, which was read by the Secretary.

The patient, æt. 53 years, a glass-blower by trade, was operated on for cataract of the left eye on March 19, 1889. Everything went well, and he left the hospital on the eleventh day, the wound being then soundly healed. Vision with + 11 D. was $^{20}/_{XL}$. Patient resumed work a month later. On December 20 he was readmitted with intense pain in, and almost complete loss of vision of, the left eye. He had left work at 4 P. M. the previous day, and was reading until 9 P. M. At midnight he was awakened with severe pain in the globe, and on presenting himself twelve hours later there was acute purulent iritis with hypopyon, T+,and vision reduced to counting fingers with difficulty. No improvement took place, and the eye was enucleated on January 2, 1890. Immediate examination of the eyeball showed extensive purulent infiltration of the vitreous, with abundant hæmorrhages in the retina, the choroid being to all appearance healthy. Microscopic sections showed that there had been accurate apposition of the lips of the corneal wound. The iris was nowhere adherent to the cicatrix, but there was a slight flat attachment to the cornea in front of it. The suppuration appeared to have commenced behind the margin of the cornea, where a few cocci were found scattered among the cells. The choroid and deeper layers of the retina appeared healthy. Dr. Berry said that the possibility of a sudden violent septic hyalitis taking place spontaneously so long after an extraction was new to him, and the case was all the more astonishing in that, not only with respect to the acuity of vision, but also from an operative point of view, it had been completely satisfactory. A somewhat similar case had occurred in Dr. Argyll Robertson's practice. Nearly eleven months after a successful cataract extraction, the eye had to be removed for suppurative panophthalmitis. This case further resembled the writer's in that the

patient was exposed to great heat. The sudden onset and malignant nature of the inflammation left no doubt that it was the result of septic infection; but as it was quite impossible that micro-organisms introduced at the operation could retain their vitality so long without showing signs of activity, there must have been some recent inoculation of the cicatricial tissue. This explanation was that adopted by Mr. Swanzy, who in 1871 published three cases in which peripheral prolapse of the iris had been followed after a prolonged interval by a spontaneous and incontrollable purulent iridocyclitis. The presence of micro-organisms in such cases was demonstrated by Leber in an article in *Graefe's Archiv*, 1878, on "The Intercellular Spaces of the Corneal Epithelium;" he stated that the bursting of an attenuated portion of a peripheral anterior synechia took place either spontaneously or as the result of a trifling lesion, and infection began at this point. Dr. Berry had lately been able to confirm this supposition by the discovery of micrococci in the vitreous in a case in which purulent hyalitis took place a long time after a perfectly normal iridectomy for glaucoma simplex. Mr. Priestley Smith had recorded a case of purulent hyalitis occurring spontaneously in an eye two years after cataract extraction. In this case there had been a slight encleisis of the iris. In one mentioned by Arlt there was a prolapse of iris the size of a pea incorporated in a cystoid cicatrix, from which, after fifteen years, a sudden panophthalmitis originated.

Dr. Brailey cited a case of spontaneous, bilateral, purulent hyalitis, which was associated with obstinate constipation, and suggested the possibility of autogenetic septicæmic infection as having a share in inducing the condition.

Mr. Marcus Gunn mentioned a case belonging to the same category in which purulent iritis and hyalitis occurred three weeks after cataract extraction, without any prolapse or adhesion of the iris, the cornea remaining clear.

Mr. Nettleship spoke of the importance of these cases both from a clinical and pathological standpoint. He was familiar with cases in which an eye, blind from old corneal

affection or glaucoma, suffered from violent inflammatory attacks similar to that mentioned, though whether this occurred in the absence of any previous perforation, operative or otherwise, he could not say. Though spontaneous iritis, not following operations (for example, cases of pseudo-glioma), might be due to septicæmia, the supposition did not aid the explanation of the present cases. It was remarkable that in both the instances cited the eyes had been exposed to great heat.

Mr. Brailey said there was no doubt that some eyes suppurated without local wound, as after glaucoma which had not been operated on. Between pseudo-glioma and the present cases there was the marked distinction that in the former suppuration was limited to the vitreous and retina, the choroid escaping; so that the globe, though soft, retained its bulk, whereas in panophthalmitis it quickly shrunk.

Mr. Waren Tay mentioned a case of purulent hyalitis or panophthalmitis in one eye, following the arrest of discharge from an abscess in the side. After enucleation the vitreous was found full of pus. There was no local inoculation. He also mentioned the case of a woman who lost both eyes by a condition resembling pseudo-glioma after confinement. There was shrinking of the globes; the septic disease was probably embolic.

The President alluded to an observation made by him long ago, that there appeared to be swelling of the discs in pyæmia; this might also be the case in the surgical disease.

Note on the Metre Angle in Latent and Manifest Muscular Deviations.

This paper, by Dr. Berry, was read by the Secretary. Dr. Berry thought that the employment of Nagel's metre angle notation as a standard of measurement in muscular deviations was not largely in vogue. If it was worth while to measure deviations at all, it was only consistent that, having adopted the metrical system of measuring refraction, we should note

the deviation in metre angles, especially as the measurement of latent squint could be made in metre angles or fractions of them as quickly as the determination of the visual acuity in the ordinary way. This was not the case with manifest deviations, but it could be said that no more time was necessary to estimate the angular deviation in metre angles than in degrees. Dr. Berry pointed out that in Nagel's notation the degree of convergence, and not merely of deviation, had to be determined, and showed that the former was in any case of squint only half the latter. The proper existing association between accommodation and convergence in the case of a squint was given by the measurement in metre angles of half the angular deviation.

On the Immediate Effect of Tenotomy on the Concomitancy of a Squint.

This paper, by Dr. Berry, was read in his absence by the Secretary. Dr. Berry first explained that he referred to complete tenotomy, and not to the so-called "partial" tenotomies, as to the justification of which he was more than sceptical. He had been in the habit of measuring not only the amount of the deviation of the squinting eye, but also the accuracy of the convergence (positive or negative), not only in the primary position, but also when the object of fixation was carried about 30° to either side. As soon as the scleral attachment of one of the recti had been divided, the concomitant character of the squint was lost and the degree of effect produced by the operation varied according to the direction of the fixation. For instance, after division of the right internal rectus, the effect of the operation would be greater as the fixing eye was removed from the middle line towards the left, and less when moved in the opposite direction. The greater effect to the left was obviously due to insufficiency of the right internal rectus, resulting from the operation; but why should the effect continue to diminish after the axis of the deviating eye had crossed the middle line and was directed outward?

Mr. Doyne spoke of the benefit often derived in cases of migraine by correction of errors of refraction, and asked the President if migraine might not be considered as a species of epilepsy.

The President said that, scientifically considered, he had no doubt migraine was a species of epilepsy, but that practically they were widely different, and rarely if ever interchangeable.

Mr. Brailey and Dr. James Anderson referred to cases in which full correction of ametropia had had no curative effect upon attacks of migraine.—*British Medical Journal.*

SELECTIONS FROM AMERICAN MEDICAL JOURNALS.

ARTIFICIAL ATTACHMENT OF A DETACHED IRIS.

BY FRANK A. MORRISON, M.D., INDIANAPOLIS, IND.

It has occasionally happened during iridectomies, in consequence of unexpected movements of the eyeball while the iris is in the grasp of the forceps, that a considerable portion of this structure becomes detached at its ciliary margin.

In opposition to the usual practice of complete excision of the detached portion, the following case, together with the method of relief, is given somewhat in detail.

Mr. E., æt. 50 years, came under my charge in February, 1890, with the following history:

While undergoing a cataract operation by the von Graefe method a sudden movement of the eye detached a considerable portion of the iris at its ciliary border, but the condition was not manifest for several days after the operation.

An examination, February 12, 1890, disclosed the following condition of the eye.

About one fourth of the iris had been torn loose at its periphery and, falling across the pupil, attached itself to the pupillary margin of the opposite side and completely occluded this opening.

Dreading the effect of the removal of so large a segment in addition to what had already been taken away, the following plan was devised and put into execution: With the assistance of Dr. J. A. Haugh, a paracentesis needle was entered at a

point upon the sclerotic just behind its junction with the cornea, where it was estimated that the angle formed by the union of the line of rupture with the detached ciliary border of the iris would come in contact with the sclerotic, if the parts were in their normal position. The needle was then carried obliquely through the sclerotic into the anterior chamber and was caused to enlarge the wound slightly in its withdrawal. Very little of the aqueous humor escaped. Now gently passing a Desmarres' cystotome into the wound and across the anterior chamber, its cutting edge was used to divide the adhesions between the contiguous margins of the iris; this done the latter floated freely in the aqueous humor. Withdrawing the cystotome, a sharp Tyrell's hook was pushed carefully along the posterior surface of the iris and made to seize it at the angle formed by the rent and the detached ciliary margin, and this angle was drawn carefully into the sclerotic incision and there left, held securely by the approximation of the walls of the valve-like slit. The immediate effect was a complete restoration of the pupil to its proper shape, accompanied, of course, by an immense increase in the volume of light entering the eye. Very little reaction followed, and in the course of a few hours the iris was firmly fixed in its new locality.

Freely admitting that one case proves little, yet this one shows the possibilities of such an operation under discouraging circumstances.

If successful, an immense advantage accrues to the patient. When this accident is detected at the time of the iridectomy, whether for cataract or other causes, it is probable that the iris could be confined in the angle of the incision, if such incision has been made in the sclerotic. If, however, the incision has been made in the cornea or from its location would produce too great a traction on the iris, it would be better to make an independent puncture and proceed as above described. The presence of the aqueous humor in all stages of the operation greatly facilitates matters, and care should be taken to limit the sclerotic incision to avoid gaping of the wound.—*Weekly Med. Rev.*

THE VALUE OF OCULAR SYMPTOMS IN THE DIAGNOSIS OF SYPHILIS.

BY S. G. DABNEY, M.D.

Professor of Physiology and Clinical Lecturer on Diseases of the Eye, Ear and Throat, Hospital College of Medicine, Visiting Surgeon to Eye and Ear Department of Louisville City Hospital.

It is generally admitted that the diagnosis of constitutional syphilis must rest upon the co-existence or history of a number of symptoms more or less indicative of that diathesis. There are a few conditions, however, which point, even in the absence of any corroborative evidence, with great certainty to syphilis. I wish to call attention to some of these which are peculiar to the eye.

There is an affection of the cornea which is by many authorities believed to be pathognomonic of inherited syphilis; all agree that it is a strong indication of this condition. The disease is a diffuse interstitial inflammation of the cornea; the cornea acquires a "ground-glass" appearance, and may become so opaque as to lower the visual power to the counting of fingers at only a few feet. Both eyes are usually affected, and the disease runs a very tedious course, from several months to several years. The iris and choroid are prone to become inflamed also; if these complications are prevented by appropriate treatment the final result is usually good. It is not rare for this symptom to be the first observed to indicate the constitutional disease, though writers on syphilis place it among the latest evidences of inherited taint. It usually occurs between the ages of five and fifteen, but has been seen as late as thirty. The following case, except that the affection began later than usual, presents a typical history:

Miss Z., æt. 16 years, consulted me lately in regard to her right eye; it was somewhat sensitive to light, but otherwise caused little pain; there was decided ciliary injection, the iris was "muddy" and the pupil sluggish; the diffusely cloudy cornea presented here and there little points of darker opacity;

the vision was reduced to counting fingers at ten feet. From this condition alone, without other symptoms and without personal or family history, the diagnosis is sufficiently certain to warrant antisyphilitic treatment, but on looking at the teeth of my patient I found the most typical Hutchinson upper middle incisors, wedge-shaped and with central notch. The mother told me that her daughter a few years before had suffered from a synovitis, which yielded to iodide of potash; an older sister had had a similar disease of the eyes which lasted about two years, but finally disappeared, leaving only a trace of corneal opacity.

Gummata in the eye are not very common, but can be occasionally recognized; they are oftenest seen in the iris, but sometimes in the ciliary region, or in the sclera further back.

The following case illustrates gumma of ciliary body and sclera:

Some six weeks ago Mrs. X. consulted me as to her left eye. I found over the upper inner section of the sclera, beginning a few lines from the corneal margin, a sharply circumscribed bulging prominence; it was very sensitive to touch and caused considerable pain; the overlying sclera was of a deep red color. The disease had begun about a week before and was growing rapidly worse. The same eye had long been blind from an extensive atrophic choroiditis involving the macula. Such an appearance was almost proof positive of constitutional syphilis, though no other evidences were to be detected at the time. The scleral bulging, with its injection, pain and tenderness, rapidly subsided under the use of mercury (hydrargyrum cum creta, 3 grains daily) and iodide of potash(30 grains daily). The lady told me that her first husband suffered from syphilis, and she believed had infected her; a letter recently received from her family physician corroborates this opinion.

Of plastic inflammations of the iris not less than 60% are syphilitic.

There is a condition of the vitreous body, visible with the ophthalmoscope, which points with very great probability to

syphilis. It is a cloudiness due to fine dust-like opacities, which may be seen to float about as the eye is moved in difierent directions. This state of the vitreous is occasioned by a chorioretinitis, nearly, if not quite, invariably of specific nature. Gummata in the choroid are sometimes seen. Hutchinson has reported a case in which this was the only sequel of a syphilis whose initial lesion and secondary eruption he had treated many years before.

Ophthalmoplegia interna, paralysis of the constrictor muscle of the iris and of accommodation should always excite strong suspicions of syphilis, unless some other cause is obvious, such as diphtheria, which, however, does not generally cause the dilated pupil, even when it produces paralysis of accommodation. This form of ocular paralysis, according to a recent writer, generally follows cases of mild, early syphilis, and consequently cases which may easily have been overlooked. I have myself within the last year seen a striking instance of this. Mr. Y., a lawyer of distinction, consulted me as to his right eye; there was mydriasis and loss of accommodative power; on asking whether he had ever had syphilis, he told me that he had; furthermore, that for the primary sore he had consulted a physician, who, after some observation of the case, assured him that he did not have syphilis; accordingly he married soon afterward. His first child presented a disease of the skin which, as it resisted ordinary measures, Dr. Bloom, of this city, was called to treat. He at once recognized its true nature, and on questioning the father was convinced that he was the subject of syphilis.

Of paralysis of the external muscles of the eye about 30% are syphilitic. There are many other diseases of the eye caused by syphilis, but I have attempted to enumerate only a few of those most important from the standpoint of diagnosis. —*Amer. Pract. and News.*

PRIMARY CHANCRE OF THE CONJUNCTIVA.

BY F. W. MARLOW, M.D., M.R.C.S.,

Professor of Ophthalmology in the Medical Department of the University of Syracuse, N. Y., etc.

The following case is thought worthy of record on account of its rarity and the perhaps somewhat unusual character of the source of infection. A fair number of cases of Hunterian chancre of the lid margin have been reported, but very few in which the sore has been situated on more remote portions of the conjunctiva. Nettleship has reported two cases, one of which I had the good fortune to see, and Wherry and Adams each one, in which the chancre was situated on the palpebral conjunctiva near the posterior margin of the tarsal cartilage of the upper lid. Beyond these I am aware of no reported cases.

Mrs. G., æt. 49 years, a widow; seen for the first time on August 24, 1886. At that date the left upper lid had been inflamed and swollen about one week; there had been sufficient pain to disturb rest, and some discharge. I found the lid much swollen, especially at the inner end, where a deep circumscribed induration could be felt. The upper lid overlapped the lower end and could not be everted. By lifting it slightly away from the eye the presence of chemosis could be made out, and also the fact that the cornea and iris were normal in appearance. There was some flaky discharge. Lead lotion and hot fomentations were ordered.

August 26.—No better; pre-auricular gland enlarged. The possibility of its being a case of primary chancre was entertained. No ulceration could be made out, however, on the conjunctiva as far as it could be exposed. The family physician knew of no possible source of infection.

I was called to see her again about ten days later. No improvement had taken place in the interval. Ulceration had now extended to the edge of the eyelid near the inner canthus, and a ragged ulcer could be seen on the palpebral conjunctiva by a partial eversion of the lid. There was consider-

able pain; the pre-auricular gland was larger, and the glands under the left side of the jaw were swollen to the size of a small orange. The fauces were congested but no ulceration was seen. There was one doubtful spot on the nose but no general eruption.

The diagnosis of primary chancre was made, and confirmed before we left the house by finding that the patient's daughter was the mother of an illegitimate child, the subject of severe and inherited syphilis. It was small in size, wizen-faced, and covered from head to foot and down to its finger tips with papulo-squamous copper-colored eruption. The grandmother (the patient) had been taking almost entire charge of the child. It seemed most probable that infection had been produced by the fingers of the child coming into contact with the eye of the patient, although we could obtain no history of this fact.

Rapid improvement took place under the local application and internal administration of mercury.

The exact site of this chancre could not be determined, but it seems probable that its starting point was in the retro-tarsal fold, rather than entirely upon the palpebral conjunctiva; for this position would better explain the chemosis and the impossibility of everting the lid. In the late stage, however, ulceration spread along the palpebral surface to the margin of the lid.—*N. Y. Med. Jour.*

CORRESPONDENCE.

SALT LAKE CITY, April 10, 1890.

EDITOR AMERICAN JOURNAL OF OPHTHALMOLOGY.—I see in your journal of August, 1889, that Dr. Henry D. Noyes, of New York, reports a case where he discovered an eye-lash in the punctum of the lower lid.

Some two months ago I felt considerable irritation in the inner canthus of my own eye for twenty-four hours. It annoyed me very much. On meeting with a fellow oculist one evening I requested him to see if there was not something in my eye. I could find nothing, though it was by artificial light and not very good. On making a search myself with the use of a head-mirror I found projecting from the upper punctum a hair—which proved to be an eye-lash—which had found its way in about half its length.

I found another in the punctum of the upper lid of a boy who was brought to me stating he had something in his eye.

Yours truly, J. J. MCACHRAN, M.D.

REVIEWS.

A TEXT-BOOK OF DISEASES OF THE EYE. By Henry D. Noyes, A.M., M.D. New York, William Wood & Co. 1890.

We are just in receipt of this admirable text-book and hasten to recommend it most highly to our readers. Dr. Noyes' book has been preceded by a smaller volume which was one of the best; this, a considerably larger, one is still more so. Its

language is clear, concise and perspicuous. All the modern additions to our knowledge are embodied in the work, which gives also a large amount of material from the author's experience. It is very nicely illustrated by no less than 236 wood engravings and 11 plates, partly in black and white, and partly in colors.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. Issue of 1889. Edited by Ch. E. Sajous, M.D., and seventy associate editors.

It is hardly necessary to speak of the value of such a work to every practitioner. Our readers are probably particularly interested in the department of ophthalmology. This is from the hands of Dr. Ch. A. Oliver, and will be of great help as a book of reference. It is profusely and well illustrated.

SAUNDERS' QUESTION COMPENDS. W. B. Saunders, Philadelphia. 1890.

We are in receipt of four of these little volumes: On Pathology and Morbid Anatomy, by A. Semple; on Examination of Urine, by L. Wolff; on Diseases of the Skin, by F. W. Stellwagon, and on Gynæcology, by E. B. Coagin. They are well and practically illustrated, and will be decidedly useful to students and quizz-masters.

PRACTICAL ELECTRICITY IN MEDICINE AND SURGERY. By G. A. Liebig, Ju., Th.D., and G. H. Rohé, M.D. Philadelphia and London, F. A. Davis. 1890.

In the preface to this comprehensive and nicely illustrated volume the authors state, that they have endeavored to place into the hands of the student and practitioner an intelligent account of the science of electricity; and a trustworthy guide to its applications in the practice of medicine and surgery. We think they have well succeeded. ALT.

NEWS.

JAC. H. HOCK, born at Prage, October 3[illegible], 1831, died at Vienna, February 2, 1890.

He studied in Vienna, especially under E. von Jaeger; habilitated himself in 1872, and has enriched science by numerous contributions (on apparent myopia, on the function of the meridional fibres of the ciliary muscle, on syphilitic eye affections, the reports of his clinic, articles in Eulenburg's Encyclopædia, and a book: *Propædeutik zum Studium der Augenheilkunde, Vienna, 1887*), before he became the victim of a painful malady, from which death has liberated him.

THE NEW YORK OPHTHALMOLOGICAL SOCIETY.—The following-named gentlemen have been elected officers for the ensuing year: Dr. Samuel B. St. John, of Hartford, Conn., president; Dr. H. S. Oppenheimer, vice-president; Dr. John E. Weeks, secretary and treasurer; Dr. Charles E. Hackley, Dr. Charles S. Bull and Dr. D. B. St. John Roosa, committee on admissions.

OBITUARY.

OTTO BECKER †

BY J. HIRSCHBERG.

(*Centralblatt für Augenhlkde.*)

Otto Becker was born in Dornhof, near Ratzeburg, a small town in Mecklenburg Strelitz, on May 3, 1828. His road to scientific studies was not very smooth. The boy first learned Latin from an old lady, to whom his gratitude never ceased; when ten years ago I had successfully operated on this teacher for cataract, he wrote me letters full of warm sentiments. In 1847 he studied theology and philology at Erlangen. Like other emminent naturalists and physicians he, too, began with the study of theology. The knowledge of languages he thus brought with him when studying medicine; taste and pure language predominate in his writings, which is particularly commendable in this period when so little attention is paid to these things.

Otto Becker was a gallant student, an excellent fencer and shooter, a true friend to his associates. Nature had gifted him richly, soul and body. The impressively tall form of the blonde Northern German has been immortalized in Kaulbach's picture of the destruction of Jerusalem.

From 1848 till 1851 he studied natural sciences and mathematics at Berlin, thus fitting himself in the best possible manner for the profession which finally became the task of his life. Every one who has read with attention and care his great work on the pathology of the crystalline lens (in Graefe-Saemisch), is struck with the clearness and simplicity of the mathematical deductions which are in an agreeable contrast

with the tedious figurings of many colleagues which prove nothing, but that it was a difficult job to get through with.

He came to Vienna as teacher in the family in which it was his lot to find his true mate for life. He now studied medicine from 1854 to 1857 with untiring energy, in order to win a place in the world, he at once took up scientific research. In 1862 he was made private assistant to F. von Arlt and then clinical assistant and in 1867 he habilitated himself at the Vienna University for ophthalmology. It was extremely pleasant to all to see the friendship between teacher and pupil. Without envy and full of admiration the plain Arlt viewed the rich gifts and the innate nobility of his greatest pupil. Full of love Becker revered the old Arlt as if he were his father, and was continually studying how even in small things he could give him some pleasure, whether it was at the meetings of oculists at Heidelberg, or at Vienna at occasional visits, at the seventieth birthday of the master, or during his severe illness. We owe the biography of Arlt, which is of such great an educational value to Otto Becker.

Becker showed the same grateful admiration also for the general teacher of German oculists, A. von Graefe. When one day sitting in a restaurant in Berlin he discovered pictures of von Graefe, Donders, and Bowman which had found their way there from von Graefe's estate, he at once bought them and conceived the idea of a Graefe museum, the foundation of which he began with great zest and which a few months before his death, at last years' Heidelberg meeting, he recommended to his colleagues, in his peculiar and stirring oratory.

In the same manner he perpetuated the memory of H. Müller by publishing his works concerning the eye.

When in 1868 O. Becker was called to Heidelberg to fill the vacancy created by Professor Knapp's removal to New York, he was as yet little known as an oculist. Aside from a number of small papers (for instance, On Accommodation), a small article in Mauthner's Classical Ophthalmoscopy, his tests for astigmatism, the yearly report of von Arlt's clinic, he had then

only published the German edition of Donder's work "On Accommodation and Refraction." But at the beautiful seat of the Muses on the Neckar, in the finest eye clinic I have seen in the world, he has done more in his 22 years' work than most of the contemporaneous colleagues, and has adorned his name with immortal renown. His best achievement is the classical work on the pathology of the crystalline lens in the Graefe-Saemisch hand-book, of which it is one of the best parts. This has received a worthy completion by the work on the anatomy of the normal and the diseased crystalline lens which he published with his pupils in 1883. The pathological anatomy of the eye was especially studied at Heidelberg under his guidance, and an astonishingly large collection of eyeballs and microscopical slides was there accumulated.

Whoever gave O. Becker an eyeball, was certain—even if after years only—to get a complete report and excellent slides. He has educated numerous pupils in this art. Whenever, during the last years, any of the younger physicians who came to my lectures, expressed the desire to work at the histology of the eye, I sent him to Hoidelberg; and every one of them was satisfied. A large Atlas of the topagraphical anatomy of the eye (1874 to 1878) was the result of O. Becker's anatomical labors.

Moreover, we owe to him important contributions to the chapters on tumors, on leukæmic retinitis, on the obstructions of the lachrymal drainage apparatus, on color-blindness, on myopia and others; he showed the sharp eye of the investigator, I might almost say of the sharpshooter, when he discovered the visible pulsation in Basedow's disease, since even after his discovery an experienced ophtholmoscopist could look for a long time into such an eye, before he saw the extremely slight movement.

Otto Becker was an excellent teacher. The natural gift of oratory which we had occasion to admire as well at the scientific meetings of the ophthomologists and naturalists, as at the joyful festivities which used to follow them, did not fail him in the auditorium. His clinical work lies open and clear before

us in his report on 20 years of work of the eye-clinic of the Heidelberg university, the beautiful festival gift to the international meeting in 1888. Furthermore, what I think is of especial importance, he has educated excellent assistants, several of whom have been made professors in Germany and in other countries: a noble nature lets others partake of her riches.

Otto Becker was a fine, art-loving spirit, who not only knew how to tastefully decorate his home, but who also presented to the participants of the international meeting the copper-plate of Daviel, as a beautiful memento of the days so full of scientific work and pleasures. Through A. von Graefe, a similarly amiable character the Heidelberg Congress was originated. After his only too premature death it was due to O. Becker that it was perpetuated in the same old manner. Many will feel with me, that it was seeing Otto Becker again, what gave them the greatest pleasure when they started for Heidelberg. It will be hard to replace him; almost impossible to excel him. The brilliant arrangement of the International Congress of Ophthalmologists in 1888, the first one on German soil, at which even our French colleagues were so well represented, was principally his work. The more admirable was the modesty with which he, unlike so many gifted natures, returned to the background when the work was done. Every one who had the good luck to become more intimate with him will forever keep his memory warm.

It is hard, but natural, that every necrology has to speak of the sickness and death of its subject.

Like on many great men, fortune has smiled on Otto Becker. Elated by his successes in science and art, full of pleasure at the progress of his young sons, the strong man began to fall ill. For several years he complained when taking his vacation trip, that he felt often ill enough to interfere with his work. Still his sudden death, after a short illness, came unexpected to all of us, an unthought of stroke of fate. We feel the deep pain of his family and share it; for us, too, Otto Becker is dead.